

# Bodily-Kinesthetic Intelligence Level of First Grade Elementary School Students

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**Abstract.** Elementary school students in various aspects of life need bodily-kinesthetic intelligence, but in the reality, it still lacks the attention of teachers and parents. Therefore, the study seeks to determine the level of bodily-kinesthetic intelligence of first grade students in elementary school. The study design is a descriptive with survey method. The participants are 103 first grade elementary school students in the Bantul Regency of Yogyakarta area. The data collection used the Bodily-Kinesthetic Intelligence Rating Scale (BKI-RS) (Cronbach's alpha = 0.949 and  $r > 0.05$ ) which was done through observation when the children did some physical activity. The descriptive analysis carried out by IBM SPSS Statistic 23 to evaluate the data obtained and make a category which describing the bodily-kinesthetic intelligence level of students. The results showed that bodily-kinesthetic intelligence in first grade elementary school students divided into three categories that is 18 students (17.5%) in the low category, 62 students (60.2%) in the Medium category, and 23 students (22.3%) in the High category. It can conclude that most first grade elementary school students have moderate level of bodily-kinesthetic intelligence, even though there are some students who are low and high levels. The varying levels of the bodily-kinesthetic intelligence of first grade elementary school students shows that there is still a need to develop through various physical activities in physical education and sports.

**Keywords:** Bodily Kinesthetic Intelligence, First Grade, Elementary School.

## 1 Introduction

The development of multiple intelligences is closely related to physical education and exercise. It can be seen from some of the previous research results. Tekin Research [1] found that sportsmen have both interpersonal and intrapersonal intelligence. In addition, Kutz, Dyer, and Campbell [2] found that physical education and sports lessons could improve visual-spatial intelligence. Similarly, the study was conducted by Bayrak et al. [3] found a significant difference in academic achievement between students conducting regular exercise and students who did not [4]. In tennis learning, a variety of learning strategies and activities undertaken by teachers and coaches will encourage student growth in the all intelligence [5].

Kinesthetic-Body intelligence is the ability to control gestures, ability to master, use to objects that are physiologically in accordance with the portion of Recruitent. Motor

unit and the ability of the body to perform the motion skills composed of Physical skills components are strength, endurance, speed, flexibility, coordination and balance [6]. Hurlock [7] reveals that kinesthetic intelligence and motoric skills in children are very beneficial as a tool for social adjustment and acceptance, gaining self-reliance and recognition in groups. Gardner [8] explains that Kinesthetic-body intelligence is defined as an individual's ability to use his body to solve problems, express ideas and emotions and manipulate objects [9].

The development of kinesthetic intelligence-body (bodily-kinesthetic intelligence) Children of Elementary School (SD) is much needed in various aspects of life. Kinesthetic-Body intelligence is the ability to control gestures, ability to master, to use objects that are physiologically in accordance with the portion of Recruitment Motor unit and the ability of the body to perform the motion skills composed of Physical skills components of strength, endurance, speed, flexibility, coordination and balance [10; 11]. Kinesthetic Intelligence and motoric skills in children are very beneficial as a tool for adjustment and social acceptance, gaining self-reliance and recognition in the group [12]. There are 15% of human populations that are able to learn well through touch or physical movements around the world, so it is necessary to develop adequate learning methods [13]. Elementary school students are often called the golden era in the pattern of the progression of kinesthetic intelligence but in reality the development of the field is neglected or less gaining the attention of teachers and parents [14].

Children in elementary school age in relation to this research are children aged 6-8 years. At this time the child has begun to enjoy the association of peers and the child has begun to be able to do the game using large muscles in coordination. At this age the child has begun to emerge a tendency to try to mimic the movements and even the skill of new motion. Eliason & Jenkins [15] stated that this period is the most appropriate process of learning is through the experience of concrete and through motor experience. " At this time there was very rapid growth, this resulted from the increasing length of the bones, especially on the long bones of the femur, tibia and fibula [17]. The bones consist of a kersa matrix strengthened by the calcium salt deposits, the average of the compound bone containing a medium homogeny called the underlying substance. This basic substance consists of an extra of the cells plus a mucoprotein containing chondroitin sulfate which serves to provide a medium to precipitate calcium salts. According to Astrand [18], bone is the toughest tissue in the body and serves as a tool to move, the place of muscle, and the body organ, as a lever system that causes strength during contraction and Bones serve as body-forming. At the age of 6-8 his daily activities still dominated activities involving physical movements, kinesthetic began to develop. In addition, the children enjoy the dynamic forms of the game, so the experience of motion is needed, so there needs to be planning in the process of motion learning to become a patterned motion.

## **2 Method**

This research is a descriptive study by conducting the emotional intelligence assessment of first-class students after physical education and exercise. Observations were performed by physical education and sports teachers who conducted the study of the class.

The subject of this study is a first-class student of Manding Tengah Elementary School, Bantul Timur Elementary School, Muhammadiyah Pepe Elementary School, and Muhammadiyah Bantul Elementary School with a total of 103 people, while teachers who assess there are teachers of physical education and sports in the elementary school.

The scale of kinesthetic-intelligence assessment of the body is an instrument of assessment of motion skills that demonstrates kinesthetic intelligence-the child's body is seen from the aspect of balance, strength and endurance of muscles, coordination, accuracy, imaginative and feeling, spatial awareness, rough motor and smooth, dexterity, velocity, agility, and the body. This assessment scale consists of 5 categories of assessment ranging from very less good (1) to very well (5) to the skills of students who performed during physical activities. Based on the results of the assessment of 103 children, the scale of the kinesthetic intelligence-body assessment has a degree of alpha reliability of Cronbach 0.777. By default, all items are considered valid with part-total correlation ranging from 0.696 to 0.839. The analysis used is a descriptive statistical analysis with a percentage based on three categories.

### 3 Result And Discussion

#### Result

Table 1. The level of kinesthetic intelligence of children

Category	Frequency	Percentage (%)
Low	18	17,5
Medium	62	60,2
High	23	22,3
Total	103	100

Table 1 shows that the level of kinesthetic intelligence-the students ' body is consecutively belonging to a low of 18 people (17.5%), being as many as 62 people (60.2%), and a height of 23 people (22.3%). The Data showed that the level of kinesthetic intelligence-the body of the students still varies from low to high and most students have a degree of kinesthetic-body intelligence from medium to high. More clearly can be seen in Figure 1

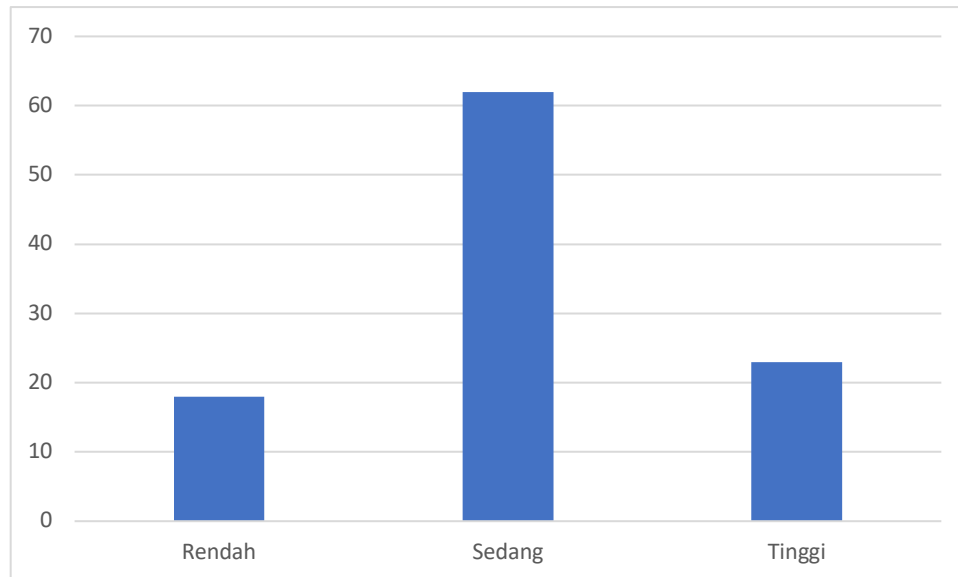


Figure 1. The distribution of kinesthetic intelligence-the child's body based on its level

### Discussion

The results showed that the kinesthetic level – the body of the students was largely in medium and high category. In addition, there are still students who have low kinesthetic-body intelligence. This shows the importance of the students to improve their kinaesthetic-body intelligence. It is in accordance with the opinion that a person who has kinaesthetic intelligence-the body can perform the appropriate movements of instruction, creating new movements and products, using the body to tackle the problem [19, 20]. This movement includes fine motor work (fingering, rubbing, touching etc.) and coarse motor (hitting, kicking, running, and so on). This intelligence also involves a sense of time and perfection skills through the unity of the body-mind. Blumenfeld-Jones [21] also emphasized that kinesthetic-body intelligence, which was owned by the people above, consisted of many interrelated abilities. Kinesthetic-body skills are distinguished into movement and motion. The first act of a person moves from one point to another while the second act refers to the attention to the motion plan. The intelligence of kinesthetic body mainly refers to the ability to be aware of one's movements. So, motion not only involves motor organs but also feelings.

Around the world there is an estimated 15% human population that is able to learn well through physical touch or movement when learning. It is thus important to develop adequate methods of learning for this type of learners [22]. Often body-kinesthetic

learners are considered ' disturbing ' in the classroom because they are unable to make their bodies silent during lessons that are verbal-linguistics or logical-mathematical methods. They only need different stimuli when learning the specific body movements to capture learning materials. Male and female students demonstrate different abilities in the body-kinesthetic intelligence. In general the boys are judged to have excellence in this intelligence [23]. However, every child of any gender has the potential to develop body-kinesthetic intelligence with the right learning process. The development of kinesthetic intelligence-the body will support the abilities of other intelligence. The research shows that intelligence is the predictor of some form of proficiency such as sportsmanship, entrepreneurial ability in sports [23, 24], even language skills [25]. So a variety of subjects (read-write, mathematics, social sciences, natural sciences) can actually use a body-kinesthetic-based learning method.

Kinesthetic Learner-The body seeks to learn to touch, move, and cultivate knowledge well through body sensations [26, 27]. This learner likes to move, make things, touch, feel in understanding the learning materials. The body becomes the most important learning medium for the body-kinesthetic learner so that the results are optimal. There are many learning strategies that can be used based on body-kinesthetic intelligence, both for explaining concepts, attitudes, and behavior. Teachers can encourage the growth of this intelligence through physical activity, learning to touch tools, moving outside the classroom, role-playing, physical relaxation exercises and more [28, 29].

Concept-shaped material can be taught through kinaesthetic-body based learning strategies. To explain concepts can be done with a physical illustration or to have students demonstrate a specific concept or term in the lesson. Through this strategy students can translate information from a language symbol and logically into the form of body expression [30]. Language materials can also be delivered to train body-kinaesthetic intelligence. There are several forms that can be explored: (1) displaying the story before it is written, (2) writing the play including organizing acting in the Pangung, (3) playing the character with vocabulary words, (4) Encouraging students to work on the project to accompany the writing They, (5) Build objects by using blocks, cubes, or lob to represent the concept of writing, (6) using electronic simulation games and direct construction to teach writing [31, 32].

Amstrong [33] describes several forms of kinesthetic-body learning such as body maps, hands-on thinking, kinesthetic concepts, classroom theater, body answer. Through the body maps method, students can use their finger to count so that the body ' saves ' that knowledge. Aspects of the body's movements can be strengthened through the hands-on learning thinking which is the students are asked to manipulate objects or create works with their hands. The method of kinesthetic concepts seeks to develop students ' ability to transfer voice/language messages into body cues. Body-kinesthetic intelligence can be

played through role-playing to explain a specific concept or phenomenon in the Classroom Theater. The body can also be used to answer questions through specific expressions and movements as per class agreement, this is known as a technical body answer. Shadow Practicing provides an opportunity for students to mimic the teacher's movements. Another Active and passive guidance method can be done to help students follow a movement with precision. A gesture, suppose hitting a ball, is separated in some small movements so that students can follow some of those little movements. In the Coach's Shoes is a technique that asks students to act as coaches/teachers and demonstrate certain techniques to their colleagues [34, 35].

#### 4 Conclusion

The results of this study show that most elementary school first-class students have a degree of kinesthetic-medium and high body intelligence. It can be concluded that physical education and exercise have contributed to the level of kinesthetic intelligence – the body of children. The level of kinesthetic intelligence-the body is expected to be higher so that first-class students can follow the next level of education well. Kinesthetic-Body intelligence is very important for children to participate better and enthusiastically in various forms of physical and sporting activity.

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